

SECTION 409 PRIME COAT

409.1-DESCRIPTION:

This work shall consist of preparing and treating an existing surface with bituminous material, and cover aggregate if required, in accordance with these Specifications and in reasonably close conformity with the lines shown on the Plans or established by the Engineer.

409.2-MATERIALS:

Materials shall meet the requirements of the following Subsections of Division 700:

MATERIALS	SUBSECTION	KIND OR GRADATION
Coarse Aggregate	703.1-4	# 7, 8, 9 or 10
Asphalt Emulsion	705.4	CBAE Primer or AEM-1, SS-1, or SS-1h
Cathionic Emulsified Asphalt	705.11	CSS-1, or CSS-1h

Unless otherwise directed by the Engineer, any of the above types or grades of bituminous material may be used.

SS-1, SS-1h, CSS-1 and CSS-1h may be diluted with water.

CONSTRUCTION METHODS

409.3-WEATHER RESTRICTIONS:

Weather restrictions shall be as prescribed in 403.3.

409.4-EQUIPMENT:

The equipment shall conform to the requirements specified in 408.4.

409.5-PREPARATION OF SURFACE:

The surface to be primed shall be shaped to the required grade and section, shall be free from all ruts, corrugations, segregated material or other irregularities, and shall be uniformly compacted immediately prior to the application of the bituminous material. The cleaning shall be done by the use of tools and equipment, as may be required, in such a manner as to thoroughly remove all mud, dirt, or any other foreign materials. The sweeping of the surface shall be just sufficient to expose the pattern of the coarse aggregate. Reconditioning and cleaning and sweeping shall be done for a minimum width of one foot (300 mm) on each side beyond the width of the surface being treated. Material cleaned from the surface shall be removed and disposed of as directed by the Engineer.

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409.6-APPLICATION OF BITUMINOUS MATERIAL:

Except when required to maintain traffic, the work shall be done on the full width of the section.

Bituminous material shall be heated within the temperature limits specified in Division 700 for the particular type of material being used and shall be applied to the width of the section to be primed by means of a pressure distributor in a uniform, continuous spread. The rate of application of bituminous material shall be as specified in 409.9.

Care shall be taken that the application of bituminous material at the junctions of spreads is not in excess of the specified amount. Excess bituminous material shall be squeegeed from the surface. Skipped areas or deficiencies shall be corrected. Building paper shall be placed over the end of the previous applications, and the joining application shall start on the building paper. Building paper used shall be removed and disposed of in a satisfactory manner.

When traffic is maintained, one-way traffic will be permitted on the untreated portion of the roadbed. As soon as the bituminous material has been absorbed by the surface and will not pick up, traffic shall be transferred to the treated portion and the remaining width of the section shall be primed. The quantities, rate of application, temperatures, and areas to be treated shall be approved before application of the prime coat.

The surfaces of sidewalks, curbs, other structures, and trees adjacent to the area being treated shall be protected in such a manner as to prevent their being spattered or marred. The material used for such protection shall be removed and disposed of in a satisfactory manner. The distributor shall not be cleaned or discharged within the right-of-way, into borrow pits, or so as to pollute or block water courses.

409.7-APPLICATION OF COVER AGGREGATE:

Cover aggregate shall be used only when called for by the Plans or when needed to absorb excess bituminous material or protect the primed surface from traffic when directed by the Engineer. Spreading shall be accomplished by aggregate spreaders in such a manner that the tires of the spreader at no time contact the uncovered and newly applied bituminous material.

If directed, the cover aggregate shall be moistened with water to eliminate or reduce the dust coating of the aggregate. Moistening shall be done the day before the use of the aggregate.

Immediately after the cover aggregate is spread, any deficient areas shall be covered by additional material. After the application of the cover aggregate, the surface where specified shall be lightly broomed or otherwise maintained.

Maintenance of the surface shall include the distribution of cover aggregate over the surface to absorb any free bituminous material and cover any area deficient in cover coat material. The maintenance shall be conducted so as not to displace imbedded material. Excess material shall be swept from the entire surface by means of rotary brooms. The surface shall be swept at the time determined by the Engineer.

409.8-PROTECTION OF PAVEMENT AND TRAFFIC CONTROL:

The Contractor shall be responsible for the protection of the surface against damage by their equipment and personnel. Traffic shall not be permitted on any part of the work under construction until the treatment has cured sufficiently to prevent raveling or pickup under traffic. The applicable provisions of 636 shall apply for regulating traffic.

409.9-SEQUENCE OF OPERATIONS AND QUANTITIES OF MATERIALS:

The sequence of operations and quantities of materials to be used shall be as shown below, unless otherwise indicated on the Plans. The quantities shown are rates per square yard (meter).

- i. Clean and Sweep until top of base stone is exposed.
- *ii. Apply 0.30 to 0.60 gal. (1.4 to 2.7 liters) of bituminous material.
- iii. Spread 10 to 20 lb. (5.5 to 8 kg) of aggregate.

*Bituminous applications may be made in two operations if necessary.

409.10-METHOD OF MEASUREMENT:

No materials shall be removed from the Project for any purpose until the operation has been completed and the quantities of materials incorporated into the operation have been determined, except when authorized by the Engineer.

The quantities of work done will be determined as follows:

The quantity of "Prime Coat Aggregate" shall be the number of tons (megagrams) of aggregate incorporated in the completed and accepted work.

The number of tons (megagrams) of "Prime Coat Aggregate" shall be determined by the total of the weights shown on receipted railroad freight bills when materials are shipped by rail; by actual measured displacement of barges certified by the producer when water shipments are made, providing materials delivered by the methods are not stockpiled or stored; or determined by the Contractor from the total of weigh slips for each vehicle load weighed on an approved standard scale or from digital printout slips from an automatic batching plant, and certified by the Contractor to be correct.

Truck scales shall be provided by the producer or Contractor, except that truck scales are not required where the material is weighed at properly calibrated automatic batching plant facilities which are equipped with digital print-out equipment. The scales shall be of sufficient size and capacity to weigh the heaviest loaded trucks that are used for delivery of the material.

All truck scales shall be mounted on solid foundations which will insure their remaining plumb and level. All truck scales shall be inspected and sealed by the West Virginia Division of Labor, Bureau of Weights and Measures, or other appropriate agencies of the State or its political subdivisions.

A weigh person shall be provided by the producer. The weigh person shall certify that the weight of the material, as determined either by the truck scales

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or from the digital printout of the weights, is correct. Each truck shall be weighed empty prior to each load, except at automatic batch plants approved to operate without truck scales.

A digital recorder shall be required on all truck scales. The digital recorder shall produce a printed record of the gross, tare, and net weights, and the time, date, truck identification and project number. Provision shall be made for constant zero compensation and further provision shall be made so that the scales may not be manually manipulated during the printing process. The system shall be interlocked so as to allow printing only when the scale has come to rest. In case of a breakdown of the automatic equipment, the Engineer may permit manual operation for a reasonable time, normally not to exceed 48 hours; while the equipment is being repaired.

The weight of all surface moisture in the aggregate will be deducted from the pay quantity.

The quantity of "Bituminous Material" for prime coat shall be the number of gallons (liters) incorporated into the completed work and will be measured as prescribed in 109.1.

The quantity of "Cleaning and Sweeping" will be measured and paid for as provided in 403.5. Where a prime coat is placed upon a new base constructed in the same contract, the conditioning and cleaning and sweeping of the base shall be considered as a part of the construction of the base and no additional compensation will be allowed for "Cleaning and Sweeping".

When items for maintaining traffic are included in the Contract, they will be measured and paid for as provided in 636.

409.11-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit prices bid for the items listed below, which prices and payments shall be full compensation for furnishing all the materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, and incidentals necessary to complete the work.

409.12-PAY ITEMS:

ITEM	DESCRIPTION	UNIT
409001-*	PRIME COAT AGGREGATE, **	TON (MEGAGRAM)
409002-*	BITUMINOUS MATERIAL	GALLON (LITER)

* Sequence number

** Type of aggregate

410 THROUGH 411 -BLANK